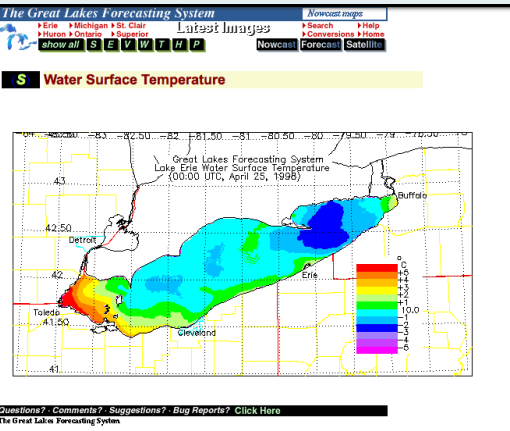


# The Great Lakes Forecasting System: *Research to Operations*

## DEVELOPMENT

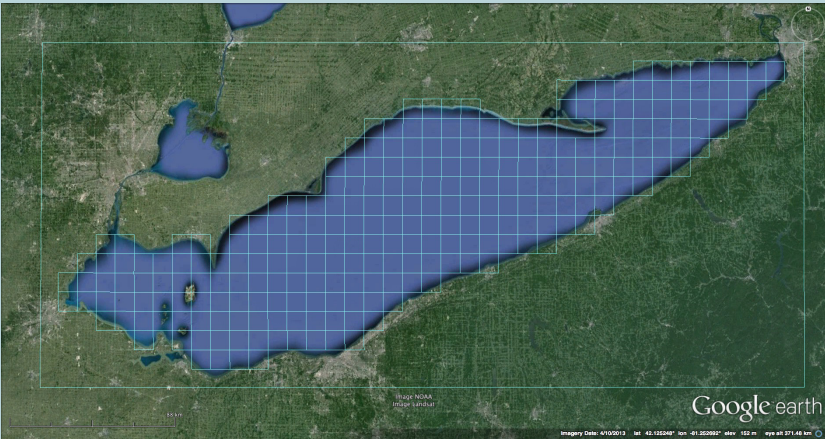
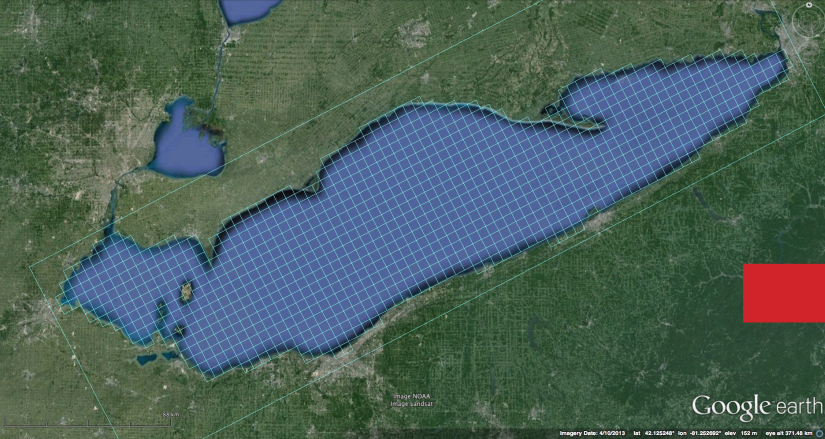
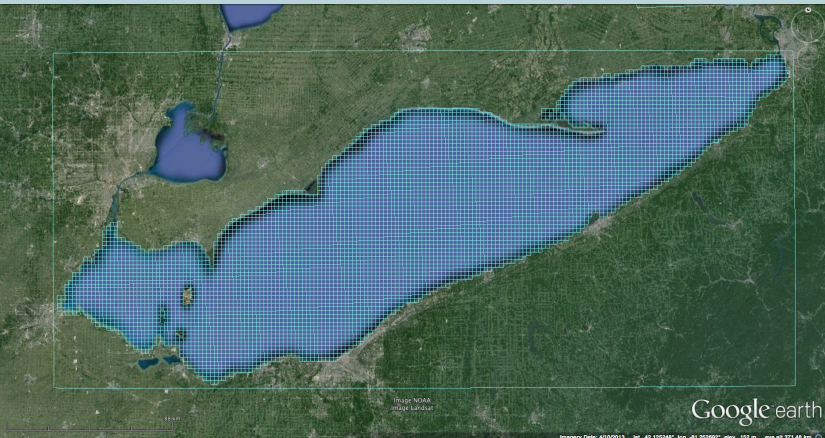
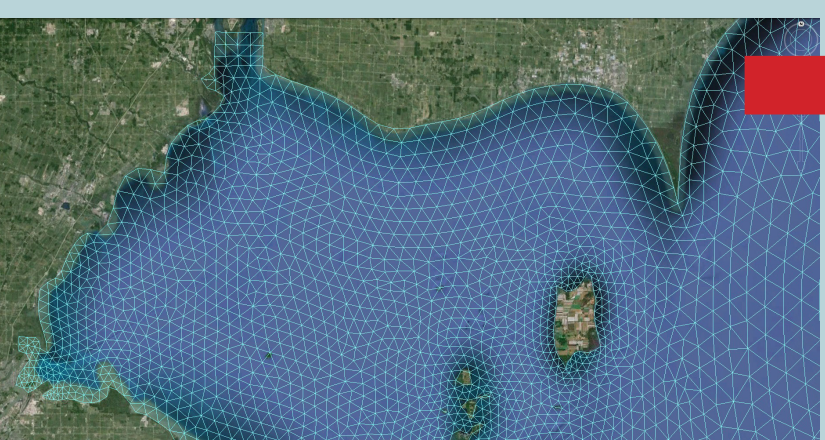
Great Lakes Forecasting System (GLFS)	
Generation 0 1992-2004	<b>Lake Erie POM</b> - low resolution grid 
Contributors	<b>OSU</b> Keith Bedford <b>GLERL</b> David Schwab

The NOAA Great Lakes Coastal Forecasting System (GLCFS) is a set of models that simulate and predict the 2-D and 3-D structure of currents, temperatures, winds, waves, ice, and water levels in the Great Lakes.

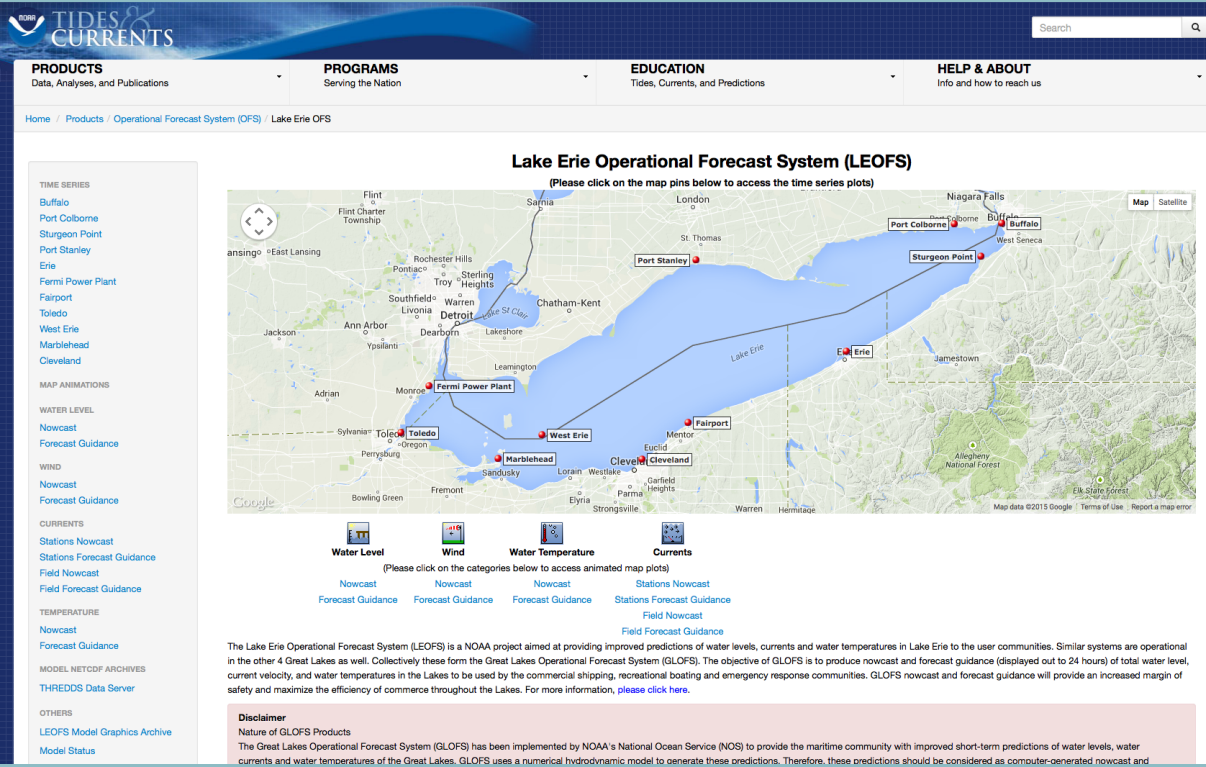
Nowcasts and forecasts are generated throughout the day in near-realtime. These predictions provide timely information to lake carriers, mariners, port and beach managers, emergency response teams, and recreational boaters, surfers, and anglers. The GLCFS uses a modified Princeton Ocean Model (POM), developed by GLERL and the Ohio State University, and is supported by the National Weather Service. Model output is available in a variety of formats including ascii, netCDF, Grib, and KML.

The POM-based research version of GLCFS was successfully transferred to NOS operations starting in 2006. Currently, GLERL is developing and testing the next generation of models using the Finite Volume Coastal Ocean Model (FVCOM), and is in the early stages of transferring to operations.

## RESEARCH

Great Lakes Coastal Forecasting System (GLCFS)	
Generation 0 1997-2002	<b>Lake Erie POM</b> - low resolution grid - 48 hour forecasts 
Generation 1 2002-2006	<b>5 lakes POM</b> - medium resolution grid - 60 hour forecasts 
Generation 2 2006-present (current generation)	<b>5 lakes POM</b> - high resolution grids - natural neighbor interpolation scheme - ice dampening - ice model - 120 hour forecasts 
Generation 3 2013-2015	<b>Lake Erie FVCOM</b> - very high resolution grid - 120 hour forecasts 
Generation 3 2015-2019	<b>Lakes Michigan/Huron, Superior, Ontario, Huron-Erie corridor, FVCOM</b> - very high resolution grids - 120 hour forecasts
Contributors	<b>GLERL</b> David Schwab Eric Anderson Dima Beletsky Jia Wang Greg Lang <b>NWS</b> Greg Mann Richard Wagenmaker

## OPERATIONS

Great Lakes Operating Forecasting System (GLOFS)	
Generation 1 2006-present (current generation)	<b>5 lakes POM</b> - medium resolution grids - 30 hour forecasts 
Generation 3 2015-2019	<b>Lakes Erie, Michigan/Huron, Superior, Ontario, Huron-Erie corridor, FVCOM</b> - very high resolution grids - 120 hour forecasts
Contributors	<b>NOS/CO-OP/PMAB</b> Aijun Zhang <b>NOS/CSDL/MMAP</b> John Kelley Eugene Wei Frank Aikman <b>Aqualinks</b> Philip Chu <b>NCEP/EMC</b> Hendrik Tolman Henrique Alves

<http://www.glerl.noaa.gov/res/glcfs/>

